



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/715,403	11/19/2003	Yuichiro Matsuo	032114	1169

38834 7590 04/26/2005

WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP
1250 CONNECTICUT AVENUE, NW
SUITE 700
WASHINGTON, DC 20036

EXAMINER

WONG, EDNA

ART UNIT PAPER NUMBER

1753

DATE MAILED: 04/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/715,403

Applicant(s)

MATSUO ET AL.

Examiner

Edna Wong

Art Unit

1753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) 1 and 2 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 3-10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>November 19, 2003</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-2, drawn to product, classified in class 428, subclass 472.2.
 - II. Claims 3-10, drawn to a method of making the product, classified in class 205, subclass 704.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product as claimed can be made by another and materially different process such as the negative ion generating metal can be deposited on the anodized layer by employing a powder form of the metal as described in JP-2001-161414.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper. During a telephone conversation with Mr. Stephen Adrian on 3/18/2005 a provisional election was made without traverse to prosecute the invention of Group II, claims 3-10. Affirmation of this election must be made by applicant in replying to this Office action.

Claims 1-2 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ling X. Xu whose telephone number is 571-272-1546. The examiner can normally be reached on 8:00 - 4:30 Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah D. Jones can be reached on 571-272-1535. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Application/Control Number: 10/715,403
Art Unit: 1753

Page 4

Ling X. Xu
Examiner
Art Unit 1775

lx

Specification

The disclosure is objected to because of the following informalities:

page 17, line 16, it is unclear what is meant by "thus allowing negative an ion generating metal(s)".

page 19, lines 4-5, reference character "56" has been used to designate both voids and the porous layer. It is unclear what reference character "56" designates.

Appropriate correction is required.

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims **4-5 and 9-10** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Art Unit: 1753

Claim 4

line 8, the phrase "such as silver nitrate, copper nitrate, or their combination" is indefinite.

lines 9-10, the phrase "such as silver sulfate, copper sulfate, or their combination" is indefinite.

Claim 5

line 4, "the electrolytic process" lacks antecedent basis.

Claim 9

line 4, the alternative expression of the Markush group is improper. MPEP 2173.05(h). The words -- the group consisting of -- should be inserted after the word "from".

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

I. Claims **3 and 9-10** are rejected under 35 U.S.C. 103(a) as being unpatentable over **EP 1,207,220 A1** ("220) in combination with **Mayers et al.** (US Patent No. 6,540,901 B2).

EP '220 teaches a method of manufacturing a negative ion generating medium characterized by:

electrolytically processing a mother material made of aluminum or aluminum alloy in an electrolyte liquid of sulfuric acid, oxalic acid, phosphoric acid, or their two or three combination to develop an anodized layer on the surface of the mother material (pages 2-3, [0009]).

The electrolytic process is carried out using a commercial alternating current, an AC/DC combined current, a PR current at the negative mode, a pulse waveform current at the negative mode, or their combination (pages 2-3, [0009]).

EP '220 does not teach wherein the electrolyte liquid is doped with a negative ion generating metal salt and depositing a negative ion generating metal from the negative ion generating metal salt on the anodized layer.

However, Mayers teaches treating a grained and anodize surface with an aqueous solution comprising at least one salt of a metal from Group IB, IIB, IVA, IVB, VB, VIA, VIB, VIIB or VIII of the Periodic Table (col. 3, lines 7-10 and lines 32-47).

Thus, the invention as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the method of EP '220 with wherein the electrolyte liquid is doped with a negative ion generating metal salt and depositing a negative ion generating metal from the negative ion generating metal salt on the anodized layer because it is conventional in the art to treat an anodized surface with a zirconium (Group IVB) or vanadium (Group VB) metal salt as taught by Mayers (col. 3, lines 7-10 and lines 32-47).

The reason or motivation to modify the reference may often suggest what the inventor has done, but for a different purpose or to solve a different problem. It is not necessary that the prior art suggest the combination to achieve the same advantage or result discovered by the Applicants. *In re Linter* 458 F 2d 1013, 173 USPQ 560 (CCPA 1972); *In re Dillon* 919 F 2d 688, 16 USPQ 2d 1897 (Fed. Cir. 1990), cert. denied, 500 USPQ 904 (1991); *In re Linter* 458 F 2d 1013, 173 USPQ 560 (CCPA 1972); *In re Dillon* 919 F 2d 688, 16 USPQ 2d 1897 (Fed. Cir. 1990), cert. denied, 500 USPQ 904 (1991) and MPEP § 2144.

As to wherein the negative ion generating metal is composed of one or more metals selected from zirconium, vanadium, lithium, yttrium, thorium, uranium, radium, and radon, Mayers teaches a zirconium (Group IVB) or vanadium (Group VB) metal salt (col. 3, lines 7-10 and lines 32-47).

II. Claims 4 and 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over **EP 1,207,220 A1** ("220) in combination with **Mayers et al.** (US Patent No. 6,540,901 B2).

EP '220 teaches a method of manufacturing a negative ion generating medium characterized by:

electrolytically processing mother material made of aluminum or aluminum alloy and covered at the surface with an anodized layer in an electrolyte liquid of sulfuric acid, oxalic acid, phosphoric acid, or their two or three combination with either a metal nitrate such as silver nitrate, copper nitrate, or their combination or a metal sulfate such as silver sulfate, copper sulfate, or their combination to deposit a specific metal from the metal nitrate or metal sulfate on the anodized layer (= although the process permits the anodized layer to be developed on the base material and simultaneously bits of metal to be separate from the electrolyte and deposited in the anodized layer by a single electrolytic action, it may be implemented by two separate steps, a step of developing the anodized layer and a step of separating bits of metal) [pages 2-3, [0009]; and page 6, [0038]].

The electrolytic process is carried out using a commercial alternating current, an AC/DC combined current, a PR current at the negative mode, a pulse waveform current at the negative mode, or their combination (pages 2-3, [0009]).

EP '220 does not teach wherein the electrolyte liquid is doped with a negative on

generating metal salt and depositing a negative ion generating metal from the negative ion generating metal salt.

However, Mayers teaches that treating a grained and anodize surface with an aqueous solution comprising at least one salt of a metal from Group IB, IIB, IVA, IVB, VB, VIA, VIB, VIIB or VIII of the Periodic Table (col. 3, lines 7-10 and lines 32-47).

Thus, the invention as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the method of EP '220 with wherein the electrolyte liquid is doped with a negative ion generating metal salt and depositing a negative ion generating metal from the negative ion generating metal salt on the anodized layer because it is conventional in the art to treat an anodized surface with a copper metal salt (Group IB) and a zirconium (Group IVB) or vanadium (Group VB) metal salt as taught by Mayers (col. 3, lines 7-10 and lines 32-47).

The reason or motivation to modify the reference may often suggest what the inventor has done, but for a different purpose or to solve a different problem. It is not necessary that the prior art suggest the combination to achieve the same advantage or result discovered by the Applicants. *In re Linter* 458 F 2d 1013, 173 USPQ 560 (CCPA 1972); *In re Dillon* 919 F 2d 688, 16 USPQ 2d 1897 (Fed. Cir. 1990), cert. denied, 500 USPQ 904 (1991); *In re Linter* 458 F 2d 1013, 173 USPQ 560 (CCPA 1972); *In re Dillon*

919 F 2d 688, 16 USPQ 2d 1897 (Fed. Cir. 1990), cert. denied, 500 USPQ 904 (1991) and MPEP § 2144.

As to wherein the negative ion generating metal is composed of one or more metals selected from zirconium, vanadium, lithium, yttrium, thorium, uranium, radium, and radon, Mayers teaches a zirconium (Group IVB) or vanadium (Group VB) metal salt (col. 3, lines 7-10 and lines 32-47).

III. Claims **5 and 9-10** are rejected under 35 U.S.C. 103(a) as being unpatentable over **EP 1,207,220 A1** ("220) in combination with **Mayers et al.** (US Patent No. 6,540,901 B2) and **Sheasby et al.** (US Patent No. 4,310,586).

EP '220 teaches a method of manufacturing a negative ion generating medium characterized by:

electrically processing the mother material in an electrolyte liquid of sulfuric acid, oxalic acid, or their combination (pages 2-3, [0009]).

The electrolytic process is carried out using a commercial alternating current, an AC/DC combined current, a PR current at the negative mode, a pulse waveform current at the negative mode, or their combination (pages 2-3, [0009]).

EP '220 does not teach subjecting a mother material made of aluminum or aluminum alloy and covered at the surface with an anodized layer to the electrolytic

process in a phosphoric acid bath to modify the shape of the anodized layer.

However, Sheasby teaches subjecting a mother material made of aluminum or aluminum alloy and covered at the surface with an anodized layer to the electrolytic process in a phosphoric acid bath to modify the shape of the anodized layer (cols. 11-20, Examples).

Thus, the invention as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the method of EP '220 by subjecting a mother material made of aluminum or aluminum alloy and covered at the surface with an anodized layer to the electrolytic process in a phosphoric acid bath to modify the shape of the anodized layer because this would have enlarged the pores in the anodized layer as taught by Sheasby (cols. 11-20, Examples).

As to wherein the electrolyte liquid is doped with a negative ion generating metal salt to deposit a negative ion generating metal from the negative ion generating metal salt on the anodized layer which has been modified in the shape, it is conventional in the art to treat an anodized surface with a zirconium (Group IVB) or vanadium (Group VB) metal salt as taught by Mayers (col. 3, lines 7-10 and lines 32-47).

The reason or motivation to modify the reference may often suggest what the inventor has done, but for a different purpose or to solve a different problem. It is not

necessary that the prior art suggest the combination to achieve the same advantage or result discovered by the Applicants. *In re Linter* 458 F 2d 1013, 173 USPQ 560 (CCPA 1972); *In re Dillon* 919 F 2d 688, 16 USPQ 2d 1897 (Fed. Cir. 1990), cert. denied, 500 USPQ 904 (1991); *In re Linter* 458 F 2d 1013, 173 USPQ 560 (CCPA 1972); *In re Dillon* 919 F 2d 688, 16 USPQ 2d 1897 (Fed. Cir. 1990), cert. denied, 500 USPQ 904 (1991) and MPEP § 2144.

As to wherein the negative ion generating metal is composed of one or more metals selected from zirconium, vanadium, lithium, yttrium, thorium, uranium, radium, and radon, Mayers teaches a zirconium (Group IVB) or vanadium (Group VB) metal salt (col. 3, lines 7-10 and lines 32-47).

IV. Claims **6-7 and 9-10** are rejected under 35 U.S.C. 103(a) as being unpatentable over **EP 1,207,220 A1** ("220) in combination with **Mayers et al.** (US Patent No. 6,540,901 B2).

EP '220 teaches a method of manufacturing a negative ion generating medium characterized by:

electrolytically processing mother material made of aluminum or aluminum alloy and covered at least partially at the surface with a granular resin coating in an electrolyte liquid of sulfuric acid, oxalic acid, phosphoric acid, or their two or three combination to develop an anodized layer on the surface of the mother material.

The electrolytic process is carried out using a commercial alternating current, an AC/DC combined current, a PR current at the negative mode, a pulse waveform current at the negative mode, or their combination (page 3, [0011]).

EP '220 does not teach wherein the electrolyte liquid is doped with a negative ion generating metal salt and depositing a negative ion generating metal from the negative ion generating metal salt on both the anodized layer and the granular resin coating.

However, Mayers teaches that treating a grained and anodize surface with an aqueous solution comprising at least one salt of a metal from Group IB, IIB, IVA, IVB, VB, VIA, VIB, VIIB or VIII of the Periodic Table (col. 3, lines 7-10 and lines 32-47).

Thus, the invention as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the method of EP '220 with wherein the electrolyte liquid is doped with a negative ion generating metal salt and depositing a negative ion generating metal from the negative ion generating metal salt on both the anodized layer and the granular resin coating because it is conventional in the art to treat an anodized surface with a zirconium (Group IVB) or vanadium (Group VB) metal salt as taught by Mayers (col. 3, lines 7-10 and lines 32-47).

The reason or motivation to modify the reference may often suggest what the

inventor has done, but for a different purpose or to solve a different problem. It is not necessary that the prior art suggest the combination to achieve the same advantage or result discovered by the Applicants. *In re Linter* 458 F 2d 1013, 173 USPQ 560 (CCPA 1972); *In re Dillon* 919 F 2d 688, 16 USPQ 2d 1897 (Fed. Cir. 1990), cert. denied, 500 USPQ 904 (1991); *In re Linter* 458 F 2d 1013, 173 USPQ 560 (CCPA 1972); *In re Dillon* 919 F 2d 688, 16 USPQ 2d 1897 (Fed. Cir. 1990), cert. denied, 500 USPQ 904 (1991) and MPEP § 2144.

As to wherein the negative ion generating metal is composed of one or more metals selected from zirconium, vanadium, lithium, yttrium, thorium, uranium, radium, and radon, Mayers teaches a zirconium (Group IVB) or vanadium (Group VB) metal salt (col. 3, lines 7-10 and lines 32-47).

As to wherein the granular resin coating is made of fluorine resin, phenol resin, or acrylic resin, EP '220 teaches a granular resin coating made of fluorine resin, phenol resin, or acrylic resin (page 6, [0037]).

V. Claims **8-10** are rejected under 35 U.S.C. 103(a) as being unpatentable over **EP 1,207,220 A1** ("220) in combination with **Mayers et al.** (US Patent No. 6,540,901 B2).

EP '220 teaches a method of manufacturing a negative ion generating medium characterized by electrolytically processing a mother material made of aluminum or

aluminum alloy and covered at least partially at the surface with a granular resin coating and then with an anodized layer in an electrolyte liquid of sulfuric acid, oxalic acid, phosphoric acid, or their two or three combination.

The electrolytic process is carried out using a commercial alternating current, an AC/DC combined current, a PR current at the negative mode, a pulse waveform current at the negative mode, or their combination (page 3, [0011]).

EP '220 does not teach wherein the electrolyte liquid is doped with a negative ion generating metal salt to deposit a negative ion generating metal from the negative ion generating metal salt on both the anodized layer and the granular resin coating.

However, Mayers teaches that treating a grained and anodize surface with an aqueous solution comprising at least one salt of a metal from Group IB, IIB, IVA, IVB, VB, VIA, VIB, VIIB or VIII of the Periodic Table (col. 3, lines 7-10 and lines 32-47).

Thus, the invention as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the method of EP '220 with wherein the electrolyte liquid is doped with a negative ion generating metal salt to deposit a negative ion generating metal from the negative ion generating metal salt on both the anodized layer and the granular resin coating because it is conventional in the art to treat an anodized surface with a zirconium (Group IVB) or vanadium (Group

VB) metal salt as taught by Mayers (col. 3, lines 7-10 and lines 32-47).

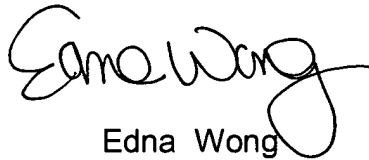
The reason or motivation to modify the reference may often suggest what the inventor has done, but for a different purpose or to solve a different problem. It is not necessary that the prior art suggest the combination to achieve the same advantage or result discovered by the Applicants. *In re Linter* 458 F 2d 1013, 173 USPQ 560 (CCPA 1972); *In re Dillon* 919 F 2d 688, 16 USPQ 2d 1897 (Fed. Cir. 1990), cert. denied, 500 USPQ 904 (1991); *In re Linter* 458 F 2d 1013, 173 USPQ 560 (CCPA 1972); *In re Dillon* 919 F 2d 688, 16 USPQ 2d 1897 (Fed. Cir. 1990), cert. denied, 500 USPQ 904 (1991) and MPEP § 2144.

As to wherein the negative ion generating metal is composed of one or more metals selected from zirconium, vanadium, lithium, yttrium, thorium, uranium, radium, and radon, Mayers teaches a zirconium (Group IVB) or vanadium (Group VB) metal salt (col. 3, lines 7-10 and lines 32-47).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edna Wong whose telephone number is (571) 272-1349. The examiner can normally be reached on Mon-Fri 7:30 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Edna Wong
Primary Examiner
Art Unit 1753

EW
April 18, 2005